

CLAIMS

What is claimed is:

1. A method for processing redundant packets, said method
5 comprising:
receiving an incoming packet comprising a source address and data;
searching for said source address of said incoming packet in at least a
portion of memory;
provided said source address is found in said portion of memory,
10 determining a packet identifier based on said data comprised in said incoming
packet,
searching for said packet identifier in at least a portion of a database;
and
provided said packet identifier is not found in said portion of said
15 database, storing said packet identifier in said portion of said database.
2. The method as recited in Claim 1 further comprising determining
whether a time condition for said incoming packet is satisfied.
- 20 3. The method as recited in Claim 2 further comprising:
provided said packet identifier is found in said portion of said database
and said time condition is satisfied, identifying said incoming packet as a
redundant packet; and

removing said packet identifier from said portion of said database.

4. The method as recited in Claim 2 further comprising, provided said packet identifier is found in said portion of said database and said time
5 condition is not satisfied, storing said packet identifier in said portion of said database.

5. The method as recited in Claim 2 further comprising:
storing said packet identifier in said portion of said database; and
10 storing an arrival time of said incoming packet in said portion of said database.

6. The method as recited in Claim 5, wherein determining whether said time condition is satisfied comprises:
15 comparing a current time with said arrival time to determine an age of said packet identifier; and
comparing said age to a given time period in order to determine if said time condition is satisfied.

20 7. The method as recited in Claim 6, wherein said comparing said age to said given time period comprises:
determining that said time condition is satisfied if said age is greater than said given time period;

removing said packet identifier and said arrival time; and
replacing said packet identifier with a new packet identifier of said
incoming packet and replacing said arrival time with a new arrival time
associated with said incoming packet

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8. The method as recited in Claim 7 further comprising customizing
said time period for incoming packets comprising the same source address.

9. The method as recited in Claim 8 further comprising updating
10 said time period associated with a source according to the rate of incoming
packets from said source.

10. The method as recited in Claim 1 further comprising determining
a first value based on said packet identifier.

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11. The method as recited in Claim 10, wherein said determining
said first value comprises using a hash function for determining said first
value.

12. The method as recited in Claim 1, wherein said storing said
20 packet identifier in said portion of said database further comprises:

provided said portion is full of other packet identifiers, comparing current time with stored arrival times corresponding to said other packet identifiers to determine ages of said packet identifiers;

determining an oldest packet identifier of said other packet identifiers;

5 and

deleting said oldest packet identifier and its corresponding arrival time.

13. A system for filtering redundant packets, said system comprising:

a memory manager comprising a reserved memory area, said reserved

10 memory area comprising:

at least one portion of memory comprising at least a source address; and

a database, wherein at least one portion of said database comprises at least one index value associated with a packet identifier;

15 and

an incoming packet manager operable to receive an incoming packet comprising a source address, search said portion of memory for said source address of said incoming packet, determine a packet identifier of said incoming packet if said source address of said incoming packet is found,
20 determine an index value based on said packet identifier of said incoming packet, search said database for said index value of said incoming packet, and store said packet identifier of said incoming packet in said database if said index value of said incoming packet is not found.

14. The system as recited in Claim 13 wherein said incoming packet manager is also operable to determine whether a time condition for said incoming packet is satisfied.

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15. The system as recited in Claim 14 wherein said incoming packet manager is also operable to identify said incoming packet as a redundant packet if said index value of said incoming packet is found in said database and said time condition is satisfied and to remove said packet identifier from
10 said database.

16. The system as recited in Claim 14 wherein said incoming packet manager is also operable to store said packet identifier of said incoming packet in said database if said index value of said incoming packet is found in
15 said database and said time condition is not satisfied.

17. The system as recited in Claim 14 wherein said incoming packet identifier is also operable to store said packet identifier of said incoming packet in said database and store an arrival time of said incoming packet in said
20 database.

18. The system as recited in Claim 17 wherein said incoming packet identifier is operable to determine whether said time condition is satisfied by

comparing a current time with said arrival time to determine an age of said packet identifier and comparing said age to a given time period in order to determine if said time condition is satisfied.

5 19. The system as recited in Claim 18 wherein said incoming packet identifier is operable to compare said age to said given time period by determining that said time condition is satisfied if said age is greater than said given time period, removing said packet identifier and said arrival time, and replacing said packet identifier with a new packet identifier of said incoming
10 packet and replacing said arrival time with a new arrival time associated with said incoming packet.

 20. The system as recited in Claim 19 wherein said incoming packet identifier is also operable to customize said time period for incoming packets
15 comprising the same source address.

 21. The system as recited in Claim 20 wherein said incoming packet identifier is also operable to update said time period associated with a source according to the rate of incoming packets from said source.

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 22. The system as recited in Claim 13, wherein said index value is determined according to a hash function.

23. A computer-readable medium having computer-readable program code embodied therein for causing a computer system to perform a method for processing redundant packets, said method comprising:

receiving an incoming packet comprising a source address and data;

5 searching for said source address of said incoming packet in at least a portion of memory;

provided said source address is found in said portion of memory, determining a packet identifier based on said data comprised in said incoming packet,

10 searching for said packet identifier in at least a portion of a database; and

provided said packet identifier is not found in said portion of said database, storing said packet identifier in said portion of said database.

15 24. The computer-readable medium as recited in Claim 23 further comprising determining whether a time condition for said incoming packet is satisfied.

25. The computer-readable medium as recited in Claim 24 further comprising:

20 provided said packet identifier is found in said portion of said database and said time condition is satisfied, identifying said incoming packet as a redundant packet; and

removing said packet identifier from said portion of said database.

26. The computer-readable medium as recited in Claim 24 further comprising, provided said packet identifier is found in said portion of said
5 database and said time condition is not satisfied, storing said packet identifier in said portion of said database.

27. The computer-readable medium as recited in Claim 24 further comprising:
10 storing said packet identifier in said portion of said database; and
storing an arrival time of said incoming packet in said portion of said database.

28. The computer-readable medium as recited in Claim 27, wherein
15 determining whether said time condition is satisfied comprises:
comparing a current time with said arrival time to determine an age of said packet identifier; and
comparing said age to a given time period in order to determine if said
time condition is satisfied.

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29. The computer-readable medium as recited in Claim 28, wherein said comparing said age to said given time period comprises:

determining that said time condition is satisfied if said age is greater than said given time period;

removing said packet identifier and said arrival time; and

replacing said packet identifier with a new packet identifier of said
5 incoming packet and replacing said arrival time with a new arrival time
associated with said incoming packet

30. The computer-readable medium as recited in Claim 29 further
comprising customizing said time period for incoming packets comprising the
10 same source address.

31. The computer-readable medium as recited in Claim 30 further
comprising updating said time period associated with a source according to
the rate of incoming packets from said source.

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32. The computer-readable medium as recited in Claim 23 further
comprising determining a first value based on said packet identifier.

33. The computer-readable medium as recited in Claim 32, wherein
20 said determining said first value comprises using a hash function for
determining said first value.

34. The computer-readable medium as recited in Claim 23, wherein said storing said packet identifier in said portion of said database further comprises:

provided said portion is full of other packet identifiers, comparing current
5 time with stored arrival times corresponding to said other packet identifiers to determine ages of said packet identifiers;

determining an oldest packet identifier of said other packet identifiers;
and

10 deleting said oldest packet identifier and its corresponding arrival time.

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